We claim:

1. A vehicular lock, comprising:

a frame;

a lock bolt movable from an extended and locked position to a retracted and unlocked position;

a follower movable with the lock bolt;

a pivot rotatably coupled to the frame;

an actuator drivably coupled to the pivot; and

a cam coupled to the pivot, driven by rotation of the pivot, and in contact with the follower, the cam rotatable to move the lock bolt from the extended and locked position to the retracted and unlocked position, the cam having an asymmetric profile with respect to the pivot, the asymmetric profile defined at least in part by a first sector corresponding to the locked position of the lock bolt, a second sector corresponding to the unlocked position of the lock bolt, a third sector having a changing radial dimension defining a ramped surface from an end of the first sector to a beginning of the second sector, and a fourth sector extending between an end of the second sector to a beginning of the first sector, wherein the third sector is defined by a greater circumferential portion of the cam than the fourth sector.

2. The vehicular lock as claimed in claim 1, further comprising a spring positioned to exert a bias force on the lock bolt toward the locked position.

3. The vehicular lock as claimed in claim 1, wherein the actuator is a motor.

4. The vehicular lock as claimed in claim 1, wherein the cam is rotatable in opposite directions to move the lock bolt between the extended and locked position and the retracted and unlocked position.

5. The vehicular lock as claimed in claim 1, wherein the cam is driven in a single direction to move the lock bolt between the extended and locked position and the retracted an unlocked position.

6. The vehicular lock as claimed in claim 1, further comprising a controller coupled to the actuator and controlling operation of the actuator via pulse width modulation.

7. The vehicular lock as claimed in claim 1, wherein the first and second sectors are each greater than about 30 degrees and less than about 150 degrees, the third sector is greater than about 30 degrees and less than about 270 degrees, and the fourth sector is between about 10 degrees and about 90 degrees.

8. The vehicular lock as claimed in claim 7, wherein the first and second sectors are each between 60 and 120 degrees, and the third sector is between 60 and 180 degrees.

9. The vehicular lock as claimed in claim 1, wherein the third sector is at least as large as each of the first and second sectors.

10. The vehicular lock as claimed in claim 1, further comprising at least one sensor positioned to detect a position of the lock bolt.

11. The vehicular lock as claimed in claim 10, further comprising a magnet coupled to one of the pivot, the cam, and the lock bolt, the sensor positioned to detect a magnet field of the magnet to determine the position of the lock bolt.

12. The vehicular lock as claimed in claim 11, further comprising a controller coupled to the actuator and the sensor, the controller responsive to at least one signal from the sensor to control operation of the actuator.

13. The vehicular lock as claimed in claim 12, further comprising an H-bridge coupled to the controller to short circuit the actuator in order to brake rotation of the cam.

14. The vehicular lock as claimed in claim 12, wherein the actuator is reversible by the controller to re-position the follower with respect to one of the first and third sectors.

15. The vehicular lock as claimed in claim 1, wherein the lock is a steering column lock.

16. The vehicular lock as claimed in claim 1, wherein the third sector generates gradual radial movement of the follower with respect to the pivot.

17. The vehicular lock as claimed in claim 1, wherein the follower is a roller coupled to the lock bolt.

18. The vehicular lock as claimed in claim 1, wherein the follower is integral with and extends from the lock bolt.

19. The vehicular lock as claimed in claim 1, wherein the at least one sensor detects the position of the lock bolt by detecting a rotational position of at least one of the cam and the pivot.

20. A steering column lock, comprising:

a frame;

a lock bolt moveable from an extended and locked position to a retracted and unlocked position;

a follower movable with the lock bolt;

a pivot rotatably coupled to the frame;

an actuator drivably coupled to the pivot; and

a cam coupled to the pivot, driven by rotation of the pivot, and in contact with the follower, the cam rotatable to move the lock bolt from the extended and locked position to the retracted and unlocked position, the cam having an asymmetric profile with respect to the pivot, the asymmetric profile defined at least in part by a first sector corresponding to the locked position of the lock bolt, a second sector corresponding to the unlocked position of the lock bolt, and a third sector having a changing radial dimension defining a ramped surface from an end of the first sector to a beginning of the second sector, wherein the third sector is defined by a greater circumferential portion of the cam than each of the first and second sectors.

21. The vehicular lock as claimed in claim 20, further comprising a fourth sector extending between an end of the second sector and a beginning of the first sector, the fourth sector having a changing radial dimension defining a ramped surface between the end of the second sector and the beginning of the first sector.

22. The vehicular lock as claimed in claim 21, wherein the third sector is defined by a greater circumferential portion of the cam than the fourth sector.

23. The vehicular lock as claimed in claim 20, further comprising a spring positioned to exert a bias force on the lock bolt toward the locked position.

24. The vehicular lock as claimed in claim 20, wherein the actuator is a motor.

25. The vehicular lock as claimed in claim 20, wherein the cam is rotatable in opposite directions to move the lock bolt between the extended and locked position and the retracted and unlocked position.

26. The vehicular lock as claimed in claim 20, wherein the actuator drives the cam in a single direction to move the lock bolt between the extended and locked position and the retracted and unlocked position.

27. The vehicular lock as claimed in claim 20, further comprising a controller coupled to the actuator and controlling operation of the actuator via pulse width modulation.

28. The vehicular lock as claimed in claim 20, wherein the first and second sectors are each greater than about 30 degrees and less than about 150 degrees, and the third sector is greater than about 30 degrees and less than about 270 degrees.

29. The vehicular lock as claimed in claim 28, wherein the first and second sectors are each between 60 and 120 degrees, and the third sector is between 60 and 180 degrees.

30. The vehicular lock as claimed in claim 20, further comprising at least one sensor positioned to detect a position of the lock bolt.

31. The vehicular lock as claimed in claim 30, further comprising a magnet coupled to one of the pivot, the cam, and the lock bolt, the sensor positioned to detect the magnet field of the magnet to determine the position of the lock bolt.

32. The vehicular lock as claimed in claim 31, further comprising a controller coupled to the actuator and the sensor, the controller responsive to at least one signal from the sensor to control operation of the actuator.

33. The vehicular lock as claimed in claim 32, wherein the actuator is reversible by the controller to re-position the follower with respect to the first and third sectors.

34. The vehicular lock as claimed in claim 32, further comprising an H-bridge coupled to the controller to short circuit the actuator in order to brake rotation of the cam.

35. The vehicular lock as claimed in claim 20, wherein the lock is a steering column lock.

36. The vehicular lock as claimed in claim 20, wherein the third sector generates gradual radial movement of the follower with respect to the pivot.

37. The vehicular lock as claimed in claim 20, wherein the follower is a roller coupled to the lock bolt.

38. The vehicular lock as claimed in claim 20, wherein the follower is integral with and extends from the lock bolt.

39. The vehicular lock as claimed in claim 30, wherein the at least one sensor detects the position of the lock bolt by detecting a rotational position of at least one of the cam and the pivot.

40. A vehicular lock, comprising:

a frame;

a lock bolt having a follower surface, the lock bolt movable from an extended and locked position to a retracted and unlocked position;

a pivot rotatably coupled to the frame;

an actuator drivably coupled to the pivot;

a cam coupled to the pivot, driven by rotation of the pivot, and in camming contact with the follower surface, the cam rotatable to move the lock bolt from the extended and locked position to the retracted and unlocked position; and

first and second sensors positioned to sense the rotational position of the cam, the first sensor located less than one-hundred and eighty degrees about the pivot from the second sensor.

41. The vehicular lock as claimed in claim 40, wherein the first and second sensors are positioned to detect a magnet coupled to the cam.

42. The vehicular lock as claimed in claim 41, wherein the magnet is mounted upon the cam.

43. The vehicular lock as claimed in claim 41, wherein the magnet is mounted upon the pivot.

44. The vehicular lock as claimed in claim 40, wherein the cam has a first portion at a first radial distance from the pivot, a second portion extending from the first portion and having an increasing radial distance from the first portion, and a third portion extending from the second portion, the follower surface movable into camming contact with the first portion to define the locked position of the lock bolt, with the third portion to define the unlocked position of the lock bolt, and with the second portion to move the lock bolt between the locked and unlocked positions.

45. The vehicular lock as claimed in claim 44, wherein the first sensor is positioned to detect approach of the follower into camming contact with the third portion of the cam.

46. The vehicular lock as claimed in claim 45, wherein the second sensor is positioned to detect approach of the follower into camming contact with the first portion of the cam.

47. The vehicular lock as claimed in claim 44, wherein

the actuator is a motor; and

the motor is braked responsive to detection of the cam follower approaching camming contact with the third portion of the cam.

48. The vehicular lock as claimed in claim 44, wherein

the actuator is a motor; and

the motor is braked responsive to detection of the cam follower approaching camming contact with the first portion of the cam.

49. The vehicular lock as claimed in claim 40, wherein the actuator is operable to drive the cam in forward and reverse directions to move the lock bolt between the extended and locked position and the retracted and unlocked position.

50. The vehicular lock as claimed in claim 40, wherein the actuator is operable to drive the cam in a single direction to move the lock bolt between the extended and locked position and the retracted and unlocked position.

51. The vehicular lock as claimed in claim 40, further comprising a controller coupled to the actuator and controlling operation of the actuator via pulse width modulation.

52. The vehicular lock as claimed in claim 40, further comprising a controller coupled to the actuator, wherein the actuator is reversible by the controller to re-position the follower with respect to a surface upon which the follower has stopped.

53. A method of moving a lock bolt from a locked position to an unlocked position, the method comprising:

biasing a follower against a cam, the cam having a first sector rotatable into contact with the follower in the locked position of the lock bolt, a second sector rotatable into contact with the follower in the unlocked position of the lock bolt, and third sector located between the first and second sectors, the third sector defining a greater circumferential portion of the cam than either of the first and second sectors;

rotating the cam;

camming the follower upon a surface of the first sector toward the third sector;

moving the follower from the first sector to the third sector;

camming the follower upon a surface of the third sector having an increasing radius;

moving the bolt from the locked position toward the unlocked position by camming the follower upon the surface of the third sector;

moving the follower from the third sector to the second sector; and

camming the follower upon a surface of the second sector.

54. The method as claimed in claim 53, further comprising:

moving the follower from the second sector to a fourth sector; and

camming the follower upon a surface of the fourth sector having a decreasing radius, wherein the third sector defines a greater circumferential portion of the cam than the fourth sector.

55. The method as claimed in claim 53, further comprising:

detecting approach of the follower to the second sector of the cam; and

braking the motor prior to the follower reaching the second sector of the cam.

56. The method as claimed in claim 53, further comprising:

detecting approach of the follower to the first sector of the cam; and

braking the motor prior to the follower reaching the first sector of the cam.

57. The method as claimed in claim 53, wherein rotating the cam includes driving the cam with pulse width modulated power.

58. The vehicular lock as claimed in claim 53, further comprising reversing rotation of the cam to re-position the follower upon the second sector.

59. A method of moving a lock bolt from a locked position to an unlocked position, the method comprising:

placing the lock bolt in the locked position;

rotating a cam in a rotational direction with a motor;

disposing the cam against a follower surface by rotating the cam in the first rotational direction;

retracting the lock bolt from the locked position by disposing the cam against the follower;

detecting a rotational position of the cam with a sensor;

braking the motor responsive to detecting the rotational position of the cam;

decelerating the cam by braking the motor; and

stopping the motor and cam while the lock bolt is in the unlocked position.

60. The method as claimed in claim 59, wherein the rotational position of the cam is a first rotational position of the cam and the sensor is a first sensor, the method further comprising:

detecting a second rotational position of the cam with a second sensor;

braking the motor responsive to detecting the second rotational position of the cam;

decelerating the cam by braking the motor while still extending the lock bolt to the locked position; and

stopping the motor and cam while the lock bolt is in the locked position.

61. The method as claimed in claim 59, wherein braking the motor includes electrically shorting the motor.

62. The method as claimed in claim 59, wherein detecting a rotational position of the cam follower includes directly detecting at least one of a rotational position of the cam, a pivot coupled to the cam and driven by the motor, and another element mounted for rotation with the pivot.

63. The method as claimed in claim 59, wherein the motor is driven in the rotational direction to both retract and extend the lock bolt.

64. The method as claimed in claim 59, wherein the motor is driven in a single direction to both retract and extend the lock bolt.

65. The method as claimed in claim 59, wherein rotating the cam includes driving the cam with pulse width modulated power.

66. The vehicular lock as claimed in claim 59, further comprising rotating the cam in an opposite direction to re-position the follower surface upon the cam while maintaining the lock bolt in the unlocked position.